

DATA QUALITY ASSURANCE REVIEW

Site Name: Castle Miles Landfill
 Site Code: TXD980750368
 Case Number: 20267
 Laboratory: American Analytical - Broken Arrow, OK
 Soil Samples: MFAP79, MFAP80, MFAP81, MFAP82,
 MFAP83, MFAP84, MFAP85, MFAP86,
 MFAP87, MFAP88, MFAP89, MFAP81D

The data package consists of 12 soil samples analyzed for TCL metals and cyanide. One sample was a duplicate.

1. Analytical Parameters: All samples were analyzed using low concentration samples.
2. Holding Times: All sample preparation and analysis were conducted within holding time limits.
3. Calibration Verification: There is no indication that the cyanide standard was distilled. All cyanide data is flagged as (J). All initial calibration verification results were within control limits. All continuing calibration verifications were conducted at the proper frequency and the results were within control limits.
4. Blanks: All blanks were at the IDL except copper and silver
 The blank concentrations for copper were generally above the IDL. The highest value was 4.8 mg/l. All sample analyte concentrations were less than five times this concentration and, therefore, were flagged (B).
 The blank concentration for silver was above the IDL, but did not affect the results since all sample concentrations were below the IDL.
5. Matrix Spike Recovery: The spike recovery (%R) was miscalculated for cyanide, mercury, and manganese. Corrections should be as follows:

ELEMENT/IONIC SPECIES	%R LISTED VALUE	TRUE VALUE
Hg	110.0	90.0
Mn	-363.5	-363.4
Cn	101.4	91.4

Spike recovery for barium and vanadium exceeded quality control limits. Analyte concentrations of these two elements are flagged (J).

All other matrix spikes were within quality control limits.

6. Duplicates: The relative percent difference for aluminum, iron, and manganese exceed the quality control limit of 35%. As such, analyte concentrations of these elements are flagged (J).
The relative percent difference for all other elements meet the quality control criteria.
7. Laboratory Control Samples: Quality control criteria were met in all samples.
8. ICP Interference Check Sample (ICS): ICP interference check samples were analyzed at the specified frequency and the results were within control limits.
9. ICP Serial Dilution: Quality control criteria were met in all samples.
10. Furnace AA: Furnace Atomic Absorption Raw Data was not part of this validation package.
11. Sample Result Verification: Data package had no missing or incorrectly numbered pages.
12. Overall Assessment of Data: The data package is acceptable except for the following:
 - a. Blank interference with copper analyte.
 - b. Failure to dilute the mid-range cyanide standard.
 - c. Duplicate relative difference for aluminum, iron and manganese being beyond control limits.
 - d. Matrix Spike Recovery for barium and vanadium being beyond control limits.

28-Oct-93

CHEMICAL DATA SUMMARY

Site Name and Code: Castle Mies Landfill, TXD980750368
 Case Number: 20267
 Concentrations in milligrams/kilogram (mg/kg)
 Compiled by: Fluor Daniel, Inc.

Traffic Number:	MFAP79	MFAP80	MFAP81	MFAP82	MFAP83	MFAP84	MFAP85
Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Percent Solids:	80.8	77.7	79.4	81.4	84.9	78.1	81.7
Location:	SS-01	SS-02	SS-03	SS-04	SS-05	SS-06	SS-07
and/or Sample Description:							

COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C
ALUMINUM	7429-90-5	INO	27,600.00	J	32,900.00	J	32,600.00	J	15,900.00	J	9,100.00	J	10,200.00	J
ANTIMONY	7440-36-0	INO												
ARSENIC	7440-38-2	INO	3.60		5.00		6.80		4.00		4.40		4.70	
BARIUM	7440-39-3	INO	229.00	J	169.00	J	349.00	J	190.00	J	196.00	J	190.00	J
BERYLLIUM	7440-41-7	INO	1.10		1.10		1.20		1.00	U	1.00	U	1.00	U
CADMIUM	7440-43-9	INO												
CALCIUM	7440-70-2	INO	7,750.00		144,000.00		73,800.00							
CHROMIUM	7440-47-3	INO	22.10		33.10		28.90		78,700.00		97,100.00		85,500.00	
COBALT	7440-48-4	INO	8.20		6.40		15.80		15.10		8.20		9.70	
COPPER	7440-50-8	INO	17.50	B	17.00	B	19.80	B	6.00		10.70		7.30	
IRON	7439-89-6	INO	16,800.00	J	20,100.00	J	21,800.00	J	12,600.00	B	7.90	B	12.10	B
LEAD	7439-92-1	INO	19.70		21.50		26.70		18.80	J	8,250.00	J	10,100.00	J
MAGNESIUM	7439-95-4	INO	2,950.00		4,880.00		3,880.00		14.70		17.90		12.70	
MANGANESE	7439-96-5	INO	515.00	J	605.00	J	1,030.00	J	2,520.00	J	1,650.00	J	2,270.00	J
MERCURY	7439-97-6	INO							681.00	J	543.00	J	326.00	J
NICKEL	7440-02-0	INO	21.00	U	21.20		30.30		21.00	U	21.00	U	21.00	U
POTASSIUM	7440-09-7	INO	1,150.00		3,690.00		2,360.00		1,320.00		1,010.00		1,150.00	
SELENIUM	7782-49-2	INO												
SILVER	7440-22-4	INO												
SODIUM	7440-23-5	INO	183.00	U	445.00		402.00		359.00		219.00		264.00	
THALLIUM	7440-28-0	INO												
VANADIUM	7440-62-2	INO	34.30	J	55.40	J	61.40	J	32.40	J	25.50	J	29.60	J
ZINC	7440-66-8	INO	38.20		75.50		54.40		37.60		30.10		38.00	
CYANIDE		INO	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U

LEGEND

INO - Inorganic

B - Blank interference. Analyte conc. < 5x blank conc.

J - The associated value is an estimated quantity.

R - Data for analyte is unusable.

U - The material was analyzed for but was not detected above the level of the associated value.

UJ - The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

B:CASTLEMIWK3

002402

28-Oct-93

CHEMICAL DATA SUMMARY

Site Name and Code: Castle Miles Landfill, TXD980750398
 Case Number: 20267
 Concentrations in milligrams/kilogram (mg/kg)
 Compiled by: Fluor Daniel, Inc.

COMPOUND NAME	CAS NO.	CLASS	MFAP86		MFAP87		MFAP88		MFAP89		MFAP81D		Concentration C
			Concentration C	Concentration C	Concentration C	Concentration C	Concentration C	Concentration C	Concentration C	Concentration C	Concentration C	Concentration C	
ALUMINUM	7429-90-5	INO	33,900.00	J	38,600.00	J	28,500.00	J	36,800.00	J	14,794.81	J	
ANTIMONY	7440-36-0	INO					19.00	U	19.00	U			J
ARSENIC	7440-38-2	INO	4.30		4.80		3.00	U	3.40		4.30		
BARIUM	7440-39-3	INO	200.00	J	321.00	J	203.00	J	302.00	J	221.82	J	
BERYLLIUM	7440-41-7	INO	1.00	U	1.30		1.00	U	1.20		1.00	U	
CADMIUM	7440-43-9	INO					2.00	U	2.00	U			
CALCIUM	7440-70-2	INO	90,600.00		30,400		5,740.00		6,140.00		56,755.62		
CHROMIUM	7440-47-3	INO	28.20		32.60		21.90		29.00		13.37		
COBALT	7440-48-4	INO	7.80		17.90		5.00	U	14.20		6.81		
COPPER	7440-50-8	INO	10.90	B	13.30	B	9.90	B	11.30	B	14.42	B	
IRON	7439-89-6	INO	18,100.00	J	21,700.00	J	15,700.00	J	19,400.00	J	11,539.74	J	
LEAD	7439-92-1	INO	16.00		23.60		14.30		21.80		20.07		
MAGNESIUM	7439-95-4	INO	4,440.00		4,890.00		2,470.00		2,950.00		2,229.06		
MANGANESE	7439-96-5	INO	736.00	J	1,670.00	J	187.00	J	710.00	J	550.19	J	
MERCURY	7439-97-6	INO					0.20	U	0.20	U			
NICKEL	7440-02-0	INO	21.00	U	26.40		21.00	U	21.00	U	21.00	U	
POTASSIUM	7440-09-7	INO	2,640.00		2,970.00		1,140.00		1,770.00		1,202.54		
SELENIUM	7782-49-2	INO					4.00	U	4.00	U			
SILVER	7440-22-4	INO					3.00	U	3.00	U			
SODIUM	7440-23-5	INO	255.00		183.00		284.00		273.00		361.59		
THALLIUM	7440-28-0	INO					7.00	U	7.00	U			
VANADIUM	7440-62-2	INO	57.00	J	66.80	J	30.50	J	50.30	J	32.49	J	
ZINC	7440-66-6	INO	46.8		54.00		36.00		43.00		34.71		
CYANIDE		INO	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U	

LEGEND

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002403